

WHAT IS CLAIMED IS:

1. A motor-driven wheel driving apparatus comprising:

a wheel bearing, a planetary reduction gear, and a driving section having an electric motor for driving the planetary reduction gear and a rotation member;

the wheel bearing including a hub wheel formed with a wheel mounting flange on its one end, an inner ring press-fitted on a cylindrical portion of the hub wheel and formed on its outer circumferential surface with at least one of double row inner raceway surfaces, an outer member formed with double row outer raceway surfaces on its inner circumferential surface oppositely to the inner raceway surfaces, and double row rolling elements rollably arranged between the inner and outer raceway surfaces;

the planetary reduction gear including an input element mounted on the rotation member, a stationary element mounted on the inner circumferential surface of the outer member, a plurality of planetary elements arranged between the stationary element and the input element, and an output element for supporting the planetary elements rotatably relative to a connecting shaft;

the driving section forming the electric motor and having a stator housing mounted on the outer member, a stator portion contained within the stator housing, and a rotor portion secured on the rotation member and arranged oppositely to the stator portion via a predetermined air gap;

the connecting shaft removably and torque-transmittably connected to the hub wheel and adapted to drive the wheel by transmitting the rotation of the electric motor to the hub wheel via the planetary reduction gear.

2. A motor-driven wheel driving apparatus of claim 1 wherein the planetary reduction gear comprises a sun gear mounted on the rotation

member, a plurality of planetary gears meshing both with external teeth of the sun gear and with internal teeth formed on the inner circumferential surface of the outer member, and a carrier pin projected from the outer circumferential portion of the connecting shaft for rotatably supporting the planetary gears.

3. A motor-driven wheel driving apparatus of claim 1 wherein a braking apparatus is integrally mounted on the rotation member.

4. A motor-driven wheel driving apparatus of claim 3 wherein the braking apparatus is a parking brake.

5. A motor-driven wheel driving apparatus of claim 4 wherein the parking brake comprises an intermediate member held on the stator housing, and an actuator for engaging and disengaging the intermediate member with the rotation member by displacing the intermediate member.

6. A motor-driven wheel driving apparatus of claim 5 wherein a plurality of recesses are formed on the rotation member, the stator housing is formed with a plurality of through apertures corresponding to the recesses, the intermediate member having tapered surfaces is contained in the through passage, and the intermediate member can be adapted to be engaged and disengaged with the recess with being displaced by a cylindrical member engaging the tapered surface.

7. A motor-driven wheel driving apparatus of claim 5 wherein a plurality of recesses and tapered surfaces are formed on the rotation member, the intermediate member is formed with projected portions and tapered surfaces adapted to be engaged respectively with the recesses and the tapered

surfaces of the rotation member, and the intermediate member is held so as to be able to transmit a torque to the stator housing and also to be axially displaced.

8. A motor-driven wheel driving apparatus of any one of claim 1 wherein the planetary reduction gear has first and second planetary gears connected each other via a connecting shaft, and the power of the electric motor can be adapted to be transmitted to the hub wheel with reducing the rotation of the electric motor to two steps via the first and second planetary reduction gears.

9. A motor-driven wheel driving apparatus of claim 8 wherein the first planetary reduction gear comprises a sun gear mounted on the stator housing, a plurality of planetary gears meshing both with external teeth of the sun gear and with internal teeth formed on the inner circumferential surface of the rotation member, and a carrier pin for rotatably supporting the planetary gears relative to a first connecting shaft; the second planetary reduction gear comprises a sun gear mounted on the first connecting shaft, a plurality of planetary gears meshing both with external teeth of the sun gear and with internal teeth formed on the inner circumferential surface of the outer member, and a carrier pin for rotatably supporting the planetary gears relative to a second connecting shaft; and the second connecting shaft is connected to the hub wheel.

10. A motor-driven wheel driving apparatus of any one of claim 1 wherein the stator housing is separably fastened to the outer member.